

AMENDMENTS TO THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as is shown below. This listing of claims replaces all previous versions and listings of claims in the present application.

Listing of Claims:

1-11. (Cancelled)

12. (Currently Amended) A solid-state imaging apparatus comprising ~~unit~~ pixels that are arranged in a two-dimensional array, each of said ~~unit~~ pixels including a light-collector and a light-receiver,

wherein said light-collector includes:

a substrate onto which incident light is incident;

above said substrate, a plurality of light-transmitting films formed in a region onto which the incident light is incident; and

said plurality of light-transmitting films forming a plurality of zones each of which has a width equal to or shorter than a wavelength of the incident light, and forming an effective refractive index distribution,

wherein, for each of said ~~unit~~ pixels located in a center of an imaging area, a central axis of said light-receiver matches a central axis of said light collector, the imaging area being a plane on which said ~~unit~~ pixels are formed,

wherein, for each of said ~~unit~~ pixels located in a periphery of the imaging area,

the central axis of said light-collector is displaced from the central axis of said light-receiver toward the center of the imaging area,

wherein each of said plurality of light-transmitting films included in one of said ~~unit~~ pixels located in the center of the imaging area ~~has a line width different from a line width of each~~ corresponds to a relative one of said plurality of light-transmitting films which is ~~included in a same relative position~~ in one of said ~~unit~~ pixels located in the periphery of the imaging area ~~and which has a same relative position in said light-collector as a position of each of said plurality of light transmitting films included in the one of said unit pixels located in the center of the imaging area,~~

wherein each of said plurality of light-transmitting films included in the one of said pixels located in the center of the imaging area has a line width different than a line width of the corresponding relative one of said plurality of light-transmitting films included in the one of said pixels located in the periphery of the imaging area, and

wherein a sum of the line widths of said light-transmitting films included in the one of said ~~unit~~ pixels located in the center of the imaging area differs from a sum of the line widths of said light-transmitting films included in the one of said ~~unit~~ pixels located in the periphery of the imaging area.

13. (Cancelled)

14. (Currently Amended) The solid-state imaging apparatus according to claim 12, comprising at least:

a first ~~unit~~ pixel for first color light out of the incident light; and

a second ~~unit~~ pixel for second color light which has a typical wavelength that is

different from a typical wavelength of the first color light,

wherein said first ~~unit~~ pixel includes a first light-collector, and

said second ~~unit~~ pixel includes a second light-collector in which a focal length of the second color light is equal to a focal length of the first color light in said first light-collector.

15. (Cancelled)

16. (Currently Amended) The solid-state imaging apparatus according to claim 12,

wherein the imaging area is divided by concentric areas from the center of the imaging area to the periphery of the imaging area,

focal lengths of said light-collectors of said ~~unit~~ pixels belonging to a same one of the areas are equal, and

focal lengths of said light-collectors of said ~~unit~~ pixels belonging to different ones of the areas are different.

17. (Cancelled)

18. (Currently Amended) A solid-state imaging apparatus comprising ~~unit~~ pixels that are arranged in a two-dimensional array, each of said ~~unit~~ pixels including a light-collector and a light-receiver,

wherein said light-collector includes:

a substrate onto which incident light is incident;

above said substrate, a plurality of light-transmitting films formed in a region onto which the incident light is incident; and

said plurality of light-transmitting films forming a plurality of zones each of which has a width equal to or shorter than a wavelength of the incident light, and forming an effective refractive index distribution,

wherein each of said ~~unit~~ pixels further includes:

a wiring layer that has an aperture above said light-receiver on a light-outgoing side plane area of said light-collector; and

a focal point of light collected by said light-collector that matches a central axis of the aperture of said wiring layer,

wherein, for each of said ~~unit~~ pixels located in a center of an imaging area, a central axis of said light-receiver matches a central axis of said light-collector, the imaging area being a plane on which said ~~unit~~ pixels are formed,

wherein, for each of said ~~unit~~ pixels located in a periphery of the imaging area, the central axis of said light-collector is displaced from the central axis of said light-receiver toward the center of the imaging area,

wherein each of said plurality of light-transmitting films included in one of said ~~unit~~ pixels located in the center of the imaging area ~~has a line width different from a line width of each~~ corresponds to a relative one of said plurality of light-transmitting films which is ~~included in a same relative position~~ in a same relative position in one of said ~~unit~~ pixels located in the periphery of the imaging area ~~and which has a same relative position in said light-collector as a position of each of said plurality of light-transmitting films included in the one of said unit pixels located in the center of the imaging area,~~

wherein each of said plurality of light-transmitting films included in the one of said pixels located in the center of the imaging area has a line width different than a line width of the corresponding relative one of said plurality of light-transmitting films included in the one of said pixels located in the periphery of the imaging area, and

wherein a sum of the line widths of said light-transmitting films included in the one of said ~~unit~~ pixels located in the center of the imaging area differs from a sum of the line widths of said light-transmitting films included in the one of said ~~unit~~ pixels located in the periphery of the imaging area.

19. (Currently Amended) The solid-state imaging apparatus according to claim 12, wherein the line width of each of said plurality of light-transmitting films included in the one of said ~~unit~~ pixels located in the ~~periphery~~ center of the imaging area is ~~shorter~~ greater than the line width of ~~each~~ the corresponding relative one of said plurality of light-transmitting films ~~which is included in the one of said unit pixels located in the center~~ periphery of the imaging area and ~~which has the same relative position in said light collector as the position of each of said plurality of light-transmitting films included in the one of said unit pixels located in the periphery of the imaging area.~~